Navy and Marine Corps
Medical News

A Public Affairs Publication of the Bureau of Medicine and Surgery

October 2010

MEDNEWS Items of Interest:

October marks "Navy Medicine's Advancements in Research and Development" - During this month, Navy Medicine focuses on the recent advancements made in our Research and Development (R&D) community. The work Navy Medicine researchers do is having a direct impact on the treatment we are able to provide, from the battlefield to the bedside.

The new documentary "The Lucky Few" is about the courageous rescue of thousands of Vietnamese refugees on the high seas by the USS Kirk at the fall of South Vietnam and will be shown on Veteran's Day, Nov. 11 in the Baird Auditorium at the Smithsonian Museum of Natural History at 2:00pm. For more information: http://www.thechiefinformationgroup.com/conference/smithsonian/index.php?c_id=18

Navy Medical Research Unit Peru will be established Oct. 26.

Find us on Facebook. U.S. Navy Bureau of Medicine and Surgery, and follow us on Twitter @ Navy Medicine

Did You Know…

Navy Medicine has 10 Medical Research Laboratories (7 CONUS, 3 OCONUS) focusing on programs as wide ranging as population based medicine and epidemiology, aviation, submarine, directed energy, toxicology, emerging infectious disease evaluations, combat casualty care, diving medicine and many more.

Navy Medicine Activates New Research Lab in Dayton, Ohio

By Larry Coffey, Navy Medicine Support Command Public Affairs

WRIGHT PATTERSON AIR FORCE BASE, Ohio - Naval Medical Research Unit-Dayton (NAMRU-D) became Navy Medicine Support Command's (NMSC) newest medical research unit when the unit was activated at a ceremony held at NAMRU-D headquarters Oct. 6.

The activation officially marked the merger of the Navy's Environmental Health Effects Laboratory (EHEL) at Wright Patterson Air Force Base (WPAFB) and the Naval Aerospace Medical Research Laboratory (NAMRL) at Naval Air Station (NAS) Pensacola, Fla.

The new Navy command, in conjunction with the Air Force 711th Human Performance Wing, will form the Base Realignment and Closure (BRAC) directed Department of Defense Center of Excellence for Aerospace Medicine Research, Training and Education.

Rear Adm. Eleanor Valentin, NMSC commander, was the ceremony keynote speaker. NMSC is based at NAS Jacksonville, Fla., and has oversight of the Navy's medical research program, including the medical research and development (R&D) commands and detachments located globally.

"Today's activation of Naval Medical Research Unit-Dayton marks the historic merger of two institutions with rich traditions in Naval Medical Research and Development," Valentin said. "The merger of these two detachments creates a premier military

See DAYTON, Page 3

USS HARRY S. TRUMAN, ARABIAN SEA - Cmdr. Jorge Graziani, left, the ship's dental officer, and Hospital Corpsman 3rd Class Megan Castle, a dental hygienist, take a three-dimensional photograph of a patient's tooth, Sept. 25. The photograph will be used to create a crown using a CEREC (Chair side Economical Restoration Esthetic Ceramic) machine aboard the aircraft carrier USS Harry S. Truman (CVN 75). USS Truman has been selected to test the new machine to determine shipboard suitability. The Harry S. Truman Carrier Strike Group is deployed supporting maritime security operations and theater security cooperation efforts in the U.S. 5th Fleet area of responsibility. (U.S. Navy photo by Mass Communication Specialist Seaman Donald White/Released)

Navy Medicine's Advancements in Research and Development

Navy Medicine would not be able to accomplish its mission without a vibrant Research and Development (R&D) community. The work that our researchers do is having a direct impact on the treatment we are able to provide, from the battlefield to the bedside. Many Wounded Warriors are walking, talking, and leading productive lives today because of our research and medical advancements. Our R&D programs are truly force multipliers to Navy Medicine's success and enable us to remain agile in the world-class healthcare we provide to our service members and beneficiaries.

This month I'd like to focus on some of the recent advancements made in our Research and Development (R&D) community. Today, we have 10 Medical Research Laboratories (7 CONUS, 3 OCONUS) focusing on programs as wide ranging as population based medicine and epidemiology, aviation, submarine, directed energy, toxicology, emerging infectious disease evaluations, combat casualty care, diving medicine and many more.

The Navy and Marine Corps team have unique operational needs including expeditionary medicine, undersea medicine, and hypobaric and hyperbaric issues. Due to the nature of wounds we are seeing from Iraq and Afghanistan, our focus remains on five priority areas to include: 1) Traumatic Brain Injury (TBI) and psychological health treatment and support for both operational forces and home-based families; 2) Medical systems support for maritime and expeditionary operations; 3) Wound management throughout the continuum of care; 4) Hearing restoration and protection for maritime, surface and air support personnel; and 5) Undersea medicine, diving, and submarine.

This focused research has yielded tremendous results in combat casualty care including mild to severe traumatic brain injury (TBI) and PTSD, wound management, wound repair and reconstruction, as well as extremity and internal hemorrhage control and phantom limb pain in amputees. The most recent and innovative example of research and treatment initiatives is the new National Intrepid Center of Excellence (NiCOE) which exemplifies "the convergence of art and science" for traumatic brain injuries and post traumatic stress disorders. This state-of-the-art facility is intended to serve as the vanguard for how to effectively research, diagnose, and treat traumatic brain injuries for wounded warriors.

"Our R&D programs are truly force multipliers to Navy Medicine's success and enable us to remain agile in the world-class healthcare we provide…"

Our medical research community has also been a tremendous asset in support of the integration of women in submarines. Navy Medicine has been looking out for the health and well being of male Sailors working in the Navy nuclear power field for more than 50 years, and for 15 years for our females Sailors since they joined the surface nuclear fleet. After a rigorous and comprehensive review, we uncovered no expected health effects of any kind and concurred with the decision for unrestricted assignment of women to submarines. We will continue to study this issue to ensure the health and well being of the Navy's total force and beneficiaries.

We need to make sure that we include our basic sciences in everything that we do. It's not about grant money. It's because the innovation and the creativity that will propel us to go to the next level, the next place we need to go, comes from that energetic and creative thinking in our research and development labs and schools. Science and technology, research and development are the bases from which most of our innovations come. We anticipate further advancements in all areas of medicine in the years to come but only if we maintain a sharp focus on our research and development priorities. Please continue to focus on the current needs of our Sailors, Marines, and their families. It is my honor to represent you as your Surgeon General. Thank you for everything you do, but most of all thank you for your service.

Vice Adm. Adam M. Robinson, Jr., U.S. Navy Surgeon General,

Navy and Marine Corps Medical News

Navy Bureau of Medicine and Surgery

Vice Adm. Adam M. Robinson, Jr.
U.S. Navy Surgeon General

Cmdr. Cappy Surette
Public Affairs Officer

Valerie A. Kremer
MEDNEWS Managing Editor

Bureau of Medicine and Surgery
2300 E Street NW
Washington, DC 20372-5300

Public Affairs Office
Phone: 202-762-3160
Fax: 202-762-1705

Navy Medicine Seeks Advances in Biomedical Research

By Christen McCluney, Office of the Secretary of Defense Public Affairs

WASHINGTON - Navy researchers are supporting today's warfighter with new advances in biomedical research and development.

"Medical research and development activity provides the inspiration for discovery and further development of new ideas, new concepts, new drugs or surgical interventions," Dr. Wayman Cheatham, special assistant for medical research to the Navy surgeon general and director of the Navy Bureau of Medicine and Surgery's Navy Medicine Research and Development Center, said during a "DOD Live" bloggers roundtable, Sept. 22.

Cheatham said Navy Surgeon General Vice Adm. Adam M. Robinson, Jr. has established five areas of priority in terms of strategic research to support the Defense Department as a whole as well as those under the care of Navy Health. Those priorities are traumatic brain injury and psychological health, medical system support for maritime and expeditionary operations, wound and injury management throughout the continuum of care, hearing restoration and protection and undersea medicine.

This overall research the Navy does to support these areas include surveillance for emerging disease, drug and vaccine development, researching environmental toxins, and medical research and development supporting force protection. To support these efforts, the Navy has medical research and clinical investigation operations on five continents, as well as among the islands of the Pacific Ocean.

Cheatham said one of the Navy's latest developments in research has been trying to determine the best agent to stop bleeding in people wounded on the battlefield. Through a collaborative effort with the Army, researchers developed QuikClot combat gauze, a wrap for wounds that seems to be more effective in controlling bleeding.

He said the latest technologies in wound and injury management are providing the greatest degree of survival and return of individuals to functionality following injury in any conflict.

"Greater than 95 percent of individuals now who are injured on the battlefield, when reached and found to be alive, survive their injuries through a long continuum of care," he said, calling

See RESEARCH, Page 4

DAYTON

From page 1

WRIGHT PATTERSON AIR FORCE BASE, Ohio (Oct. 6, 2010) – Capt. Keith Syring, Naval Medical Research Unit-Dayton (NAMRU-D) commanding officer, speaks during the NAMRU-D command activation ceremony at Wright Patterson. Syring is NAMRU-D's first commanding officer. (U.S. Navy photo by Larry Coffey/Released)

operational medicine laboratory. NAMRU Dayton will be able to answer a broad range of operationally relevant research questions across a range of warfighting domains, and across the research spectrum – from basic research to advanced technology development, and beyond. "

Capt. Keith Syring is NAMRU-D's first commanding officer, and Cmdr. Rita Simmons is the executive officer.

"This is exciting and humbling," said Syring, an aerospace operational physiologist. "It's a great opportunity for me to lead our people and be a part of this team."

Syring reported from the Bureau of Medicine and Surgery (BUMED) in Washington, DC, where he served as Navy Medicine's Aerospace Physiology Program Manager and Specialty Leader. Simmons reported from the NAMRL where she served as the Officer in Charge.

NAMRU-D will be housed in the existing joint Navy/Air Force EHEL building. The NAMRU-D headquarters will move to the Navy's new 38,700 square-foot building scheduled to open in March, indicated Mr. Mike Plante, NMSC facility director. The $16.5 million building will house a custom-built Spatial Disorientation Research Device that will be used for a variety of aviation research, including motion sickness and spatial disorientation. The one-of-a-kind device will cost $19.5 million and is under development and fabrication as construction continues on the new building.

NAMRL, under various names, has been the Navy flagship laboratory for aerospace medical research for the better part of a century. NAMRL's roots go back to 1939, when the Navy established an Aviation Medicine research and training unit at Pensacola. The restructuring of Navy Medicine R&D resulted in NAMRL becoming a detachment of Naval Health Research Center (NHRC) in San Diego, and in 2005, Congress directed the realignment of the Laboratory to WPAFB under BRAC.

EHEL has long been the Navy standard-bearer for toxicology research, tracing its history to 1959 when it was established at Bethesda, Md., as the U.S. Navy Toxicology Unit. In 1976, it moved to WPAFB as the Naval Medical Research Institute Toxicology Detachment (NMRI-TD). NMRI-TD was realigned as a detachment under NHRC in 1998 and renamed EHEL in 2004.

Navy Med Logistics Command Provides PACS System for NICoE

By Sheila A. Gorman, Naval Medical Logistics Command Public Affairs

FORT DETRICK, Md. - A request for a Picture Archiving and Communication System (PACS) in March 2009 brought Naval Medical Logistics Command (NMLC) at Fort Detrick, Md., together with the most advanced center for traumatic brain injury and psychological health in the world, the National Intrepid Center of Excellence (NICoE) for Traumatic Brain Injury and Psychological Health in Bethesda, Md.

Located on the campus of the National Naval Medical Center, NICoE required a PACS sophisticated enough to handle the clinical and research image management of the Center. The NMLC PACS office took on this task, overseeing the installation of a 16 terabyte PACS with capacity to expand.

PACS is a combination of hardware and software dedicated to short- and long-term storage, retrieval, management, distribution and presentation of images.

NMLC PACS Office Program Manager, Ed Doorn, said working with new systems in a new building contributed positively to the effort.

“A lot of times we have to fumble with older systems to get them to integrate with the PACS,” Doorn said. “In this case, these are all brand new systems, so the integration was very smooth. We had no experience with the new MEG scanner; we had to do some research to see how it would integrate with the PACS.”

The Elekta Neuromag ® MEG (magnetoencephalography) scanner-provides real-time mapping of brain activity and is one of only nine in clinical use in the United States today.

An unusual aspect of the PACS installation was the patient scheduling system. NICoE uses a holistic approach and treats the entire family, not just the patient. A system that could provide a concierge-type service to schedule the family was needed. The PACS vendor supporting the NICoE mission found a way to support such a service and incorporate it into the installation.

FORT DETRICK, Md. - (L-R, standing) Naval Medical Logistics Command Picture Archiving Communication System (PACS) team members Walter Sandman, Mike Fortier, Ed Doorn, Senior Chief NMCS David Ludwig, and (seated) Greg Moser, working on the functionality aspect of acceptance testing at the National Intrepid Center of Excellence (NICoE). In the background is the new, 64-slice, state-of-the-art, PET/CT scanner, located in the NICoE on the campus of the National Navel Medical Center, Bethesda, Md. (U.S. Navy photo by Sheila A. Gorman, NMLC Public Affairs/Released)

One challenge was the need for clinical and research collection data. Doorn explained that research data is shared between research partners and remains anonymous while clinical data, along with patient demographics, is needed to follow a patient through lifelong treatment. The system had to be able to split and route the data in two directions while maintaining the integrity of each.

The final acceptance testing of the equipment will be conducted by the PACS Team in September.

See PACS, Page 7

RESEARCH

From Page 3

that survival rate "astounding and historical."

The Navy also is researching the use of hyperbaric oxygen chambers in treating traumatic brain injury and post-traumatic stress, he said.

"We have been involved in a number of very significant research projects," he added. "It's important that the question of hyperbaric oxygen utilization for treatment of traumatic brain injury or post-traumatic stress disorder be investigated in a very, very rigorous and ethical fashion."

Monitoring the long-term effects of service on submarines to determine whether unanticipated situations develop or health concerns emerge is another area of ongoing research, Cheatham said, and Navy researchers also are working with agencies such as the Centers for Disease Control and the World Health Organization in vaccine development.

"Navy laboratories have been integral to the process of investigation and vaccine development by means of their being deployed around the world," he said. "They have an opportunity to actually be first on hand to sample outbreaks of infection or illness and determine the actual type of virus that might be involved. So Navy serves as a very, very important link in the worldwide surveillance and intervention process."

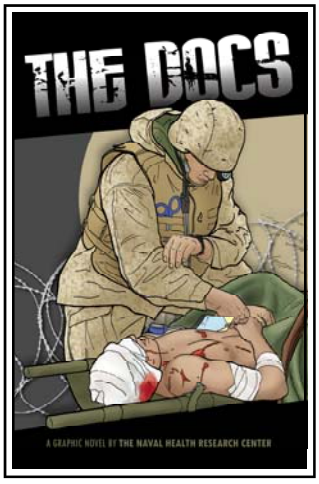
Citing concerns about using resources to the fullest extent possible, Cheatham said he can assure the public that the Navy is carrying out its commitment to the highest caliber of research and medical education, and that those two areas are being maintained as strategic priorities for the Navy.

"New linkages between research and development and our clinical activities at our medical treatment facilities are evidence of this type of commitment," he said.

Graphic Novel Helps Corpsmen Cope with Combat-related Stress

By Valerie Kremer, Bureau of Medicine and Surgery Public Affairs

WASHINGTON - The Naval Health Research Center (NHRC) recently produced a 200-page graphic novel called "The Docs" as a communication tool to help Navy Corpsmen with the stresses of combat deployments. The graphic novel tells the stories of four fictional corpsmen serving in Iraq at the height of Operation Iraqi Freedom.



"Since the start of combat operations in the Middle East, Navy Medicine recognized that expeditionary hospital corpsmen have extremely high exposure to the many significant stressors of war, both acute and chronic," said Capt. Greg Utz, NHRC commanding officer. "Their dual roles as caregivers and combatants puts them at high risk for stress injuries, so we developed this graphic novel as an innovative way to help our Sailors prepare for and interpret situations they may see in theater."

"The Docs" portrays four expeditionary Corpsmen from both active duty and Reserve components, who are deployed with Marine Corps and seabee units.

The story follows them as they grapple with having to kill enemy forces; struggle to save the lives of wounded Sailors and Marines; encounter home front problems such as injuries to their children, and other concerns that test their resilience.

In addition, they battle the stigma of seeking mental health care for their patients and for themselves, and gain greater awareness of their need to care for one another.

"The goal for this story is to provide an entertaining and community-appropriate message of the importance of caring for caregiver, and the responsibility shared in that endeavor," said Utz.

As an integral part of Navy Medicine's Care for the Caregiver program, "The Docs" was developed with the intent to instill realistic expectations of possible deployment stressors, and to provide examples for corpsmen on helpful techniques for in-theater care of stress injuries.

Graphic novels tell stories through use of sequential art in a traditional comic format, but have a beginning, middle, and end, as with traditional text novels. This format was chosen specifically for its appeal to the targeted age group and its value in providing thought-provoking content for discussion in training scenarios.

Jerry Larson, Ph.D., NHRC chief scientist for behavioral health, said the format works in helping provide corpsmen with tools they will need in high stress situations. Initial feedback from the Hospital Corps has been positive.

"Addressing the psychological toll of combat and creating the expectation of recovery is one of the most critical things we can achieve in Navy Medicine," said Larson. "While sometimes recovery requires assistance from mental health providers, nevertheless the expectation of recovery must be instilled."

Larson said copies of the "The Docs" will be distributed to corpsmen preparing to deploy. The primary audience for distribution is the Naval Expeditionary Medical Training Institute, and field medical training battalions -- both of which are located on Marine Corps bases.

Navy Medicine Celebrates the U.S. Navy's 235th Birthday

By Bureau of Medicine and Surgery Public Affairs

WASHINGTON – In a birthday message to the Navy medicine global workforce, Navy Surgeon General Vice Adm. Adam M. Robinson, Jr. thanked the medical community for their hard work and reminded them of their proud naval heritage.

"For generations, our corpsmen, nurses, doctors and dentists have deployed with Sailors and Marines worldwide, in wartime and in peacetime – providing critical mission support aboard ship, in the air, under the sea and on the battlefield," said Robinson. "From Khe Sanh to Kandahar and countless other places we have gallantly answered the call. At the same time, Navy Medicine's military and civilian health care professionals have provided care for uniformed services' family members and retirees at military treatment facilities around the globe."

The U.S. Navy was formed October 13, 1775, when the Continental Congress passed a resolution to acquire the first two warships. 235 years later, the Navy now operates 288 ships and submarines, more than 3700 aircraft and employs almost 600,000 Sailors and Navy civilians. The Navy Medicine community is composed of 59,000 active duty and reservists, government civilians and non-medical contractors.

Robinson praised the Navy medical team for their pivotal role in all elements of the Navy but but a special emphasis on the medical communities role in providing humanitarian assistance operations around the world in support of the nation's Maritime Strategy.

Navy Medicine personnel respond to disasters around the world and at home, while also participating in proactive humanitarian missions in places as far reaching as Africa through *Africa Partnership Station* to the Pacific Rim through *Pacific Partnership* and South America through *Continuing Promise*.

"Nowhere was the value of Navy Medicine more evident than your extraordinary response to the people of Haiti during Operation Unified Response," said Robinson. "Our response to the Haitian people shows the selfless character of our Nation, and our values of caring for others less fortunate illustrating without a doubt that we truly are a "global force for good."

Navy Med Center San Diego Hosts Performance, Reduces Stigma

From Naval Medical Center San Diego Public Affairs

SAN DIEGO – Naval Medical Center San Diego (NMCSD) hosted the 114th performance of "Theater of War" -- a dramatic reading of two ancient Greek plays followed by a town hall discussion about the challenges faced by combat service members and veterans today – for approximately 150 members of the NMCSD community Sept. 20.

A project of the Defense Center of Excellence for Psychological Health and Traumatic Brain Injury (DCoE), "Theater of War" is conducting performances and town hall meetings in military communities across the nation in an effort to reduce stigma and encourage service members to seek needed assistance for psychological health concerns.

"No one returns from combat without being affected. War can expose many of our staff and patients to horrific things, but this is a safe place to talk about it, seek care, and start to heal," said Commander, Naval Medical Center San Diego, Rear Adm. C. Forrest Faison III, after welcoming Bryan Doerries and the cast of the Theater of War.

The production began with a performance from professional actors, who read a modern translation of two plays written by Sophocles, a Greek general officer and renowned playwright from 400 B.C.

Cast members participating in the performance the plays, included Reg E. Cathey, Josh Hamilton, Erica Tazel and Frank Harts.

"Ajax" tells the story of a Trojan War hero who is driven to madness by the same habits that made him a legend on the battlefield. "Philoctetes" is about a warrior whose men abandon him on an island because of an injury.

The follow-on town-hall session started with comments from a panel of members who respond without prepared or rehearsed remarks about what they saw and heard in the plays that connected with their own experiences at war and at home.

The panel featured Capt. Paul Hammer, director, Naval Center for Combat and Operational Stress Control, Lisa Marcolongo, a Marine Corps spouse, Marine Corps Gunnery Sgt. David Rhode, a Purple Heart recipient and Jack Lyons, a Vietnam veteran, who offered their personal insights on deployment and reintegration into society, which helped facilitate audience discussion.

"One of the things I got from the plays was when the character Tecmessa (Ajax's wife), asked for help from Ajax's friends and comrades," said Marcolongo. "After my husband's second deployment to Iraq his buddies traveled from all over to be with us in Texas and help him."

Doerries, the New York based writer, translator, director, educator and founder of Theater of War remarked, "These events offer powerful opportunities for the audience to safely discuss and constructively reflect on physical and emotional injury, death and life-threatening experiences; stigma, grief and loss, supportive relationships and the timeless relevance of these lessons in prolonged combat."

Working with producing partner Phyllis Kaufman, Doerries has been presenting readings of his translations to military communities since 2008.

For more information on Theater of War, visit: http://www.theater-of-war.com/about.html.

CHICAGO – Capt. James A. Lovell, retired Naval officer and NASA astronaut, led the cutting of a ribbon to dedicate a new ambulatory care addition of the federal health care center (FHCC) in his name Oct. 1. Many Congressional, civic and governmental leaders were on hand for the celebration. FHCC is a first-of-its-kind venture by the U.S. government, where a North Chicago medical facility has teamed up with the Navy and Department of Veterans Affairs. (Courtesy photo)

Got News? If you'd like to submit an article or have an idea for one, contact MEDNEWS at 202-762-3160, fax 202-762-1705 or Valerie.Kremer@med.navy.mil.

PACS

From Page 4

"We do this in several phases," said Doorn. "We do the initial connection and testing and have all the different systems send images. We make sure the PACS handles the data correctly and can be viewed in a good clinical format. As we add external connections, we go back and test again."

Besides the digital images, the PACS Team tests the calibration of the monitors for accuracy and that the demographic data that is associated with each patient is transferring properly.

"Our goal was to meet every single deadline we had for this system and we did that," said Doorn.

The 72,000 square foot center was built entirely with private donations by the Intrepid Fallen Heroes Fund and is dedicated to the research, diagnosis and treatment of military personnel and veteran's suffering from traumatic brain injury (TBI) and psychological health issues.

Navy Researchers Study Unique Challenges in Undersea Medicine

By Naval Medical Research Center Public Affairs

SILVER SPRING, Md. - The Undersea Medicine Department (UMD) at the Naval Medical Research Center focuses on ways to improve performance and reduce injury in deployed sailors who work in undersea occupations. The department has the capability to perform advanced undersea medicine research in a laboratory designed to use scenarios directly related to U.S. Navy diving and submarine escape. Researchers are developing cutting-edge technologies to prevent and treat decompression sickness as well as pulmonary and central nervous system toxicity associated with hyperbaric oxygen exposure.

"This unique laboratory designs and executes research specific to decompression sickness, disabled submarine rescue and hyperbaric oxygen toxicity," said, Capt. Richard T. Mahon, USN, head of the department. "UMD maintains a staff of three Undersea Medical Officers, three Ph.D. scientists and a support staff of 17 that includes certified chamber operators and skilled research technicians. This team has more than 15 hyperbaric chambers and 2400 square feet of unrivaled laboratory space."

One research project is examining the paradoxical role hyperbaric oxygen (HBO) plays in undersea medicine. HBO has demonstrable benefits in the treatment of decompression sickness and shows promise as a biomedical strategy to support the rescue of survivors in the event of a disabled submarine. However, HBO for extended periods can also compromise the pulmonary system or even induce seizures. Both the therapeutic and toxic effects are currently under study at the laboratory.

Mahon points out that oxygen breathing accelerates the *wash out* of accumulated gas. The department's research has demonstrated that breathing oxygen in a hyperbaric environment for just 45 minutes can prevent severe DCS. In a disabled submarine with a large number of survivors, this can significantly improve rescue operations. Although these findings are exciting, it is not without a downside. Oxygen breathing at high pressure is toxic to the central nervous (seizure) and pulmonary systems; therefore its use is limited to three times normal pressure.

If the internal submarine pressure is greater than three times normal pressure, survivors will need to undergo onerous decompression. Pressure at five atmospheres requires decompression in excess of 30 hours, clearly unacceptable, especially if the situation is deteriorating, Mahon went on to explain. To address this, UMD developed emergency operating decompression schedules reducing standard decompression time to just four hours. This has the potential to hasten survivor recovery and save lives.

Standard therapy for DCS is hyperbaric oxygen that requires a chamber and skilled support staff. Transporting such assets to a disabled submarine site requires herculean logistics. In response, UMD is examining non-recompressive DCS therapies, the most promising being intravenous perfluorocarbons. Perfluorocarbons dissolve gases in much greater quantities than human plasma, thereby minimizing bubble formation and accelerating gas elimination. UMD has demonstrated in the laboratory that perfluorocarbons can significantly reduce mortality due to DCS. The results are promising, but a lot more work needs to be done.

"UMD research efforts will continue to focus on enhancing performance and improving safety for divers and submariners," said Mahon. "Its inimitable capabilities and expertise keep this lab at the forefront of diving research."

SILVER SPRING, Md.— Capt. Richard T. Mahon shows hyperbaric chambers at Naval Medical Research Center. The chamber conducts small tests with capabilities for independent gas switching and is used for studies of decompression sickness and oxygen toxicity. (U.S. Navy photo by Phil Collins/ Released)

A Navy Nurse Gives Selfless Service from the Heart

By Capt. Theresa Lascari Kaiser, NC, and Lt. Holly Lee, MSC

LANDSTUHL REGIONAL MEDICAL CENTER, Germany - Gurneys are prepared for the morning Medivac flight at Landstuhl Regional Medical Center where Capt. Theresa L. Kaiser, NC, was assigned to the medical surgical ward within Navy Expeditionary Medical Unit (NEMU). (Courtesy photo/ Released)

Landstuhl Regional Medical Center (LRMC), a level II trauma center, is the largest American hospital outside of the United States and the only U.S. Medical Center in Europe. The hospital provides care to more than 245,000 U.S. military personnel and their families. It is also the evacuation and treatment center for all injured U.S. service members, civilian employees, and contractors, as well as members of 45 coalition forces serving throughout the world. Capt. Theresa L. Kaiser was assigned to a medical surgical ward within Navy Expeditionary Medical Unit (NEMU). Below is a selection from her memoir of a night shift on a medical surgical unit.

As I head toward LRMC for the night shift, my thoughts focus to my work in the medical surgical unit. More than 64,000 patients have passed through LRMC since the war began and I anticipate there will be new patients arriving tonight; while others will be medically evacuated to the States in the morning for ongoing care.

I enter the hospital and an overhead announcement is made, calling for all available manpower to the emergency room. A flight from downrange has landed; injured soldiers have arrived to our hospital. The staff assigned to "manpower" comes from every department of the hospital and they will be offloading our newly arrived Wounded Warriors from the ambulance bus and transporting them to the wards. As I open the door to the ward, I see a flurry of nurses hurrying about. I review our patients and their acuity; the majority of our patients are determined to be level III or IV; an overall high acuity. Despite the severity of injuries, one of the first questions our Wounded Warriors will ask on arrival is "How is my buddy? Where is he?" Each one has their own heartbreaking story and I listen to each warrior, one-by-one.

One of our patients, a 21-year-old Navy Corpsman previously deployed to Afghanistan, tells me the story of how she was caring for the injured Marines in the back of a hummer ambulance while it was still under fire and the deafening sound of constant pings from the bullets spraying the sides of the ambulance. Next, I see a 22-year-old Army private, who said he saw himself as being so fortunate and lucky in so many ways. He was a victim of an Improvised Explosive Device (IED) and was thrown in the blast leaving his left arm fractured in several places. As we hurried to prepare him for surgery, he explained that when the IED hit the vehicle he was the only one that was sitting near the blast, but he was wearing full gear and all his buddies were OK. When the side of the vehicle ripped, he was thrown several feet, landing on his left arm. Yes, it was broken, but he viewed his injury with a positive attitude: he is right handed!

Through our patients we have quickly learned the viciousness of the IED and its ability to destroy lives and create injuries with lifetime implications. A victim of a separate IED blast, a 23-year-old private first class, was left with fractures to his upper and lower extremities and the loss of a leg.

Across the way I spot another IED victim, a 21-year-old Marine lance corporal, sleeping. I hope he has achieved some relief from his pain and is getting the much needed rest his body requires. He has been through a hectic day of diagnostic tests, and another trip to the Operating Room for a "washout." Our patients tell us that every washout gives a whole new definition to the word "hurt." Many have nerve blocks in place to help them manage the pain.

It hurts our heart as we realize the sacrifice, now and for a lifetime, our patients have made for our freedom and for our country. There is a common theme, a professional understanding, that we all will provide the best care that we can provide at all times , with compassion and respect. This is the expectation -- no exceptions, no excuses. It is the mission of the hospital, "Selfless Service – from the Heart."

Would you like to share your deployment story with MEDNEWS?
Contact Lt. Holly Lee at
202-762-3773 or holly.lee@med.navy.mil

To keep up with Navy Medicine news and daily updates follow us on... facebook twitter